Attachment

PROPOSED RESEARCH SUPPORT FACILITIES, SITE INFRASTRUCTURE IMPROVEMENTS (PHASE 1 OF FULL SITE DEVELOPMENT), AND THERMOCHEMICAL USER FACILITY UPGRADE AT THE NATIONAL RENEWABLE ENERGY LABORATORY'S SOUTH TABLE MOUNTAIN SITE

SITE BACKGROUND AND DESCRIPTION

The National Renewable Energy Laboratory (NREL) is one of twelve Department of Energy (DOE) national laboratories and is dedicated to the research, development, and deployment of renewable energy and energy efficiency technologies. The DOE Solar Energy Research Institute, founded in 1977, achieved national laboratory status and became NREL in 1991. NREL is operated by Midwest Research Institute and Battelle for the DOE. The laboratory is comprised of three main sites: 1) South Table Mountain (STM); 2) Denver West Office Park (DWOP), and 3) the National Wind Technology Center (NWTC).

NREL conducts research activities at the STM site in support of the following DOE research programs:

- Solar Energy Technologies
- Geothermal Technologies
- Distributed Energy, Electrical Infrastructure and Reliability
- Biomass
- Industrial Technologies
- Freedom Car and Vehicle Technology
- Hydrogen, Fuel Cells and Infrastructure Technologies
- Buildings Technologies
- Weatherization and Intergovernmental Grants
- Federal Energy Management
- Other DOE Sponsored Programs
- Work for Others Supporting the DOE Mission

Additional detail regarding NREL's mission and research programs is available on the website at **www.nrel.gov**.

The 327-acre STM site is located on the southeast side of South Table Mountain, north of Interstate 70 and west of the Interstate 70 and Denver West Boulevard interchange in unincorporated Jefferson County, near Golden, Colorado (Legal description: Township 3 S, Range 70 W, Section 36, and Township 4 S, Range 70 W, Section 1) (See Figure 1). Only a portion of the site, 136 acres, is available for development. A total of 177 acres is protected by a conservation easement, and development on the remaining 14 acres is restricted by utility easements. The community of Pleasant View is adjacent to the southern border of the STM site. The STM site includes acreage on the South Table Mountain mesa top, slope, and toe, and was

formerly part of the Colorado National Guard facility at Camp George West. There are currently seven laboratory buildings, a few small test facilities, and several support buildings on the site.

The DWOP site also is in the vicinity of the Interstate 70-Denver West Boulevard interchange near Golden, Colorado. DOE and NREL occupy DWOP Buildings 15, 16, 17 and a small portion of 7 located at the eastern end of the office complex. The DWOP currently provides administrative offices and space for limited laboratory activity.

PURPOSE AND NEED

A Site-Wide Environmental Assessment (EA) for the STM and the DWOP was prepared in 2003 that evaluated the existing and proposed facilities as well as the operation of the site. The 2003 Site-Wide EA provides a detailed framework under which the potential environmental impacts of the Proposed Action will be evaluated. Activities evaluated in this EA Supplement are those for which there is either current funding or there is a high likelihood of receiving funding in the near future. Full site development of the 136 acres of buildable land would be based on the availability of funds. The concepts for full build-out of the STM Site have not been sufficiently developed for NEPA review at this time and will not be evaluated in this EA Supplement. Future site development activities will be evaluated in future EAs as funding for future projects is obtained and project designs and schedules are identified.

The subject of this EA Supplement includes the construction of an office building(s) (the Research Support Facility or RSF), infrastructure improvements, and expansion of the capabilities of the existing Thermochemical User Facility (TCUF).

This EA Supplement will provide an opportunity to review the collective potential effects of constructing and operating the proposed RSF and associated site infrastructure as well as the TCUF upgrade. The purpose and need for the Proposed Action is to: 1) move out of leased facilities and collocate support staff with research staff, 2) upgrade and expand portions of the existing infrastructure, 3) prepare the site for future development, and 4) provide additional research and development capabilities to promote the development of cost-competitive biofuels.

PROPOSED ACTION AND ALTERNATIVES

The following presents a summary of the Proposed Action and the No Action alternative descriptions. Figure 2 provides a proposed layout for the RSF, TCUF Upgrade, and infrastructure improvements.

Proposed Action

Research Support Facility

The RSF would consist of one or more buildings of approximately 244,000 sq. ft. (total). The facility or facilities could be up to 60 feet in height. The facility would house approximately 800 workers. The majority of those workers would relocate from Denver West Office Park

space to the South Table Mountain site. The facility would most likely be located in NREL's identified Development Zones 4 and/or 6, the southeast quadrant of Zone 4 and the eastern section of Zone 6 south of Denver West Parkway. Development zones are identified in the STM Site-wide EA at http://www.eere.energy.gov/golden/NREL_STM.aspx

The RSF is intended to be a showcase of sustainable high-performance design that would demonstrate the integration of high performance building design and practices, as well as showcase technology advances in renewable and energy efficient technologies. The RSF would contain offices, service areas, conference rooms, and other support areas such as a library, IT data center, food service area, fitness areas, and loading dock.

Site Infrastructure

Phase I of the proposed site infrastructure improvements includes the addition of parking and roadways to support the proposed RSF and future site development activities. Utilities, walkways, and landscaping would be provided. Drainage improvements and storm water detention would also be included.

Thermochemical User Facility Expansion

The existing NREL Thermochemical Process Development Unit (TCPDU) located within the Field Test Laboratory Building has evolved continuously in the 13 years since the first components were installed. The TCPDU has reached a state of operation that makes it a valuable research tool instead of a research project in and of itself. However, it is limited in its ability to address particular components of the expanded DOE research and development agenda and also to demonstrate the integrated conversion approaches. Expanding its capabilities is the most efficient approach to provide both the necessary research data to accelerate progress towards the DOE 2012 targets and demonstration of an integrated biomass to ethanol process by 2012.

Expanding the thermochemical biomass conversion capabilities at NREL would be completed in two separate but complimentary phases. In the first phase, laboratory space within the Field Test Laboratory Building (FTLB) would be modified to allow for 575 square feet (sf) of low bay space for mini-pilot scale thermochemical conversion systems, and 275 sf of control room space.

The second phase involves the addition of specially designed high pressure, flammable liquid-rated high bay space adjacent to the FTLB. These high pressure bays would be occupied by pilot scale equipment to demonstrate the fully integrated biomass gasification, syngas cleanup, and ethanol synthesis of various biomass feedstocks.

No Action

The No Action Alternative would leave the site in its current configuration, add no new facilities, and maintain current levels of research, operation and management activities. Therefore, the existing site and activities provide the baseline condition for the environmental impact analysis.

ENVIRONMENTAL TOPICS TO BE ADDRESSED

The draft EA will address direct, indirect, and cumulative impacts of the Proposed Action and alternatives. Beneficial and adverse, on-site and off-site, construction, demolition, and operation and maintenance impacts will be discussed, as appropriate. The environmental topics to be addressed in the EA include:

Land Use, Planning, Socioeconomics and Public Policy
Traffic and Circulation
Air Quality and Noise
Visual Quality/Aesthetics
Water Resources
Soils and Geology
Biological Resources
Cultural Resources
Waste Management
Public Facilities, Services and Utilities
Energy
Sustainability
Risk Assessment

SCHEDULE

DOE anticipates public distribution of the Draft EA in December 2007. Comments are requested by October 12, 2007. No formal public scoping meeting is currently planned for this project. This letter and the draft EA, when available, will be posted in the Department of Energy's Golden Field Office electronic reading room: http://www.eere.energy.gov/golden/reading_room.aspx.

Please direct your comments to:

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FIGURES:

Figure 1 Regional Location Map, South Table Mountain Site
Figure 2 Proposed Locations of RSF, Proposed Infrastructure Improvements, and TCPDU Upgrade